IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

CONFIDENTIAL – TO BE FILED UNDER SEAL
SUBJECT TO PROTECTIVE ORDER

IN RE: HIGH-TECH EMPLOYEES ANTITRUST LITIGATION **THIS DOCUMENT RELATES TO:** **ALL ACTIONS**	**No. 11-CV-2509-LHK**

SUPPLEMENTAL EXPERT REPORT OF EDWARD E. LEAMER, PH.D.

May 10, 2013

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I. Introduction, Assignment, and Summary of Conclusions

1. I have been asked by counsel for Class Plaintiffs in this matter to respond to the following questions regarding my prior analysis and further analysis that can be conducted based on the available data in this case. I have been asked to focus my response on the employees belonging to the proposed Technical, Creative and R&D Class ("Technical Class") identified in my initial report.

2. **Question #1:** Does the total compensation of Technical Class employees in specific job titles move together over time, further confirming the existence of a somewhat rigid pay structure at each Defendant?

3. **Answer:** When asked in the deposition (p283) "Could a nonrigid wage structure, as you've defined it, lead to parallel lines?" I responded to what I thought to be a hypothetical with "Yes, it could." I should have added that this would require highly unusual external labor market conditions which dictated the parallel movements of vast numbers of titles. Markets typically are not so orderly, and prices of, for example, gold, silver, copper and zinc do not normally move in parallel. For that reason, I regard the parallel movements of compensation for so many titles not only to be consistent with a "somewhat rigid wage structure" but also evidence specifically in favor of the hypothesis that internal equity played an important role in determining compensation in all these firms. In this report, I confirm this opinion with two additional empirical studies. I have estimated regression models that allow me to separate the contributions of internal and external forces, and found that the internal forces are evident but the external forces are not. I have also compared average compensation for the Technical Class of titles and the non-technical employees for all the defendants. I found that the compensation curves of these two groups within each firm are highly parallel while the compensation curves for the same group from two different firms move in a much more disparate way. This again is saying that the internal forces are evident but the external forces are more difficult to detect.

4. In this Report, I present correlations that compare the movement *over time* of the average compensation of each title with the average compensation of the firm's Technical Class. To accommodate titles that cannot be accessed on a title-by-

title basis due to insufficient data [redacted]

5. **Question #2:** Do the data show additional evidence that internal factors such as internal equity partly drove the Defendants' compensation structures, as opposed to only external market forces?

6. **Answer:** I have analyzed a model of sharing of compensation effects, title by title, within Defendant firms relative to movements of other Technical Class employees compensation. Again, to accommodate titles that cannot be accessed title-by-title [redacted] I also analyzed the compensation of relatively narrow groups of employees against the compensation of the overall Technical Class employees.

7. Specifically, I report below estimated multiple regression models that explain the year-by-year increases in average compensation at the title level in terms of four explanatory variables: (1) increases in average Technical Class compensation; (2) the previous year's ratio of average Technical Class compensation divided by the average title compensation; (3) the previous year's ratio of firm-wide average revenue divided by the average title compensation; (4) the percent change in software jobs in the San Jose-Sunnyvale-Santa Clara Metropolitan Statistical Area (hereafter: San Jose MSA).

8. [redacted]

9. **Question #3:** Do the data show the existence of large groups of class members who necessarily would not have been harmed by a restriction on cold-calling?

10. **Answer:** No. I have performed the above-mentioned statistical analyses separately for distinct subgroups of employees grouped by compensation level. I do not find persuasive evidence to suggest that there are sizeable groups whose compensation might have been disconnected from Defendants' somewhat rigid compensation structure. [redacted]

11. **Question # 4:** Is it possible to identify and exclude from the Technical Class job titles based on a lack of these positive correlative relationships?

12. **Answer:** No. [redacted]

[redacted]

13. In sum, the statistical analysis I conduct here--in conjunction with the economic and econometric evidence in my original reports--supports my original finding of a somewhat rigid pay structure at each Defendant that would have transmitted the effects of the agreements broadly, including throughout the Technical Class.

II. Defendants' Use of Compensation Structures

14. [redacted]

15. [redacted]

[redacted]

16. [redacted]

17. [redacted]

III. Empirical Methodologies for Exploring the Somewhat Rigid Salary Structure

A. Choice of Aggregation Level

18. [redacted]

19. [redacted]

20. [redacted]

[redacted]

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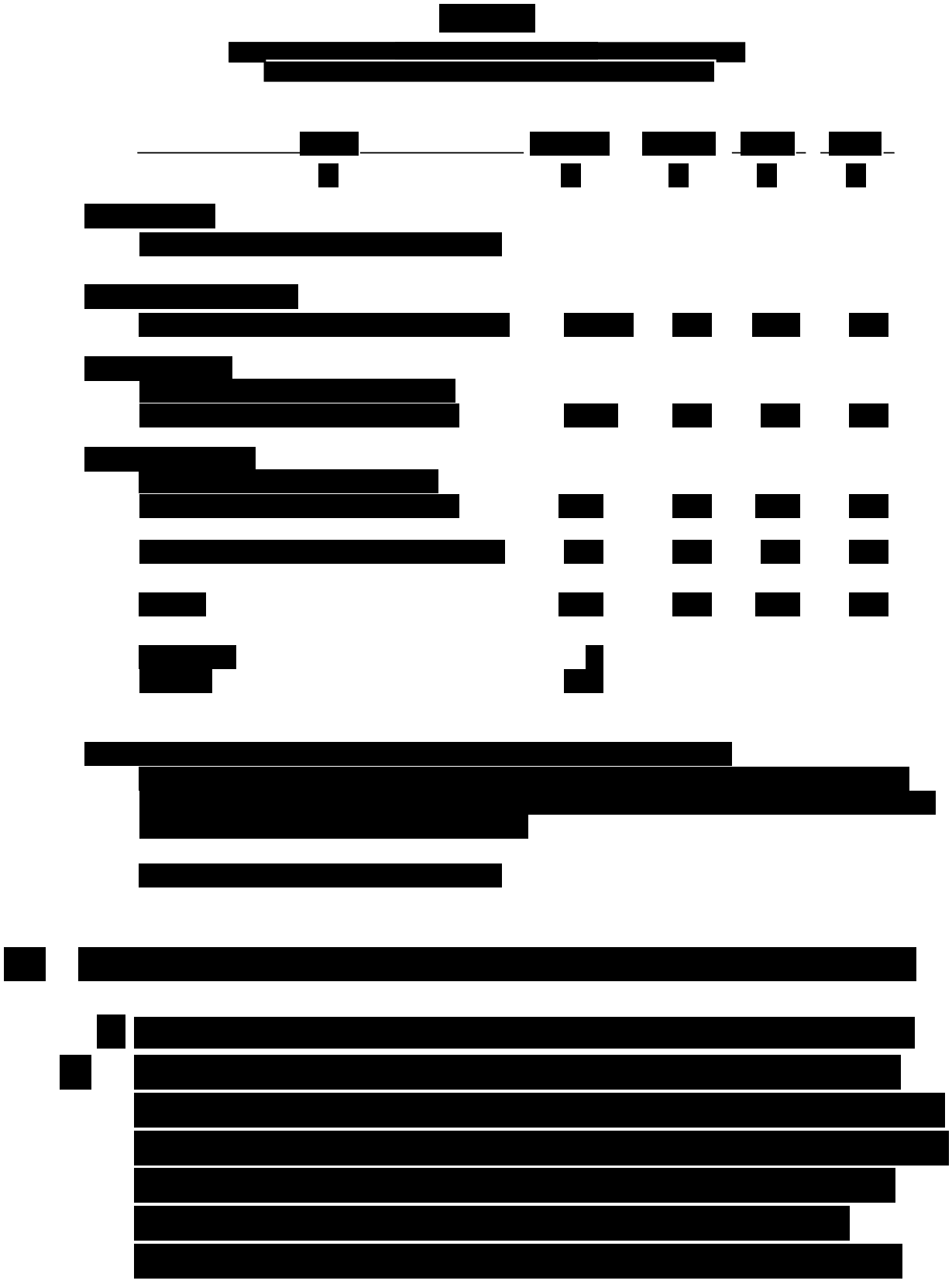

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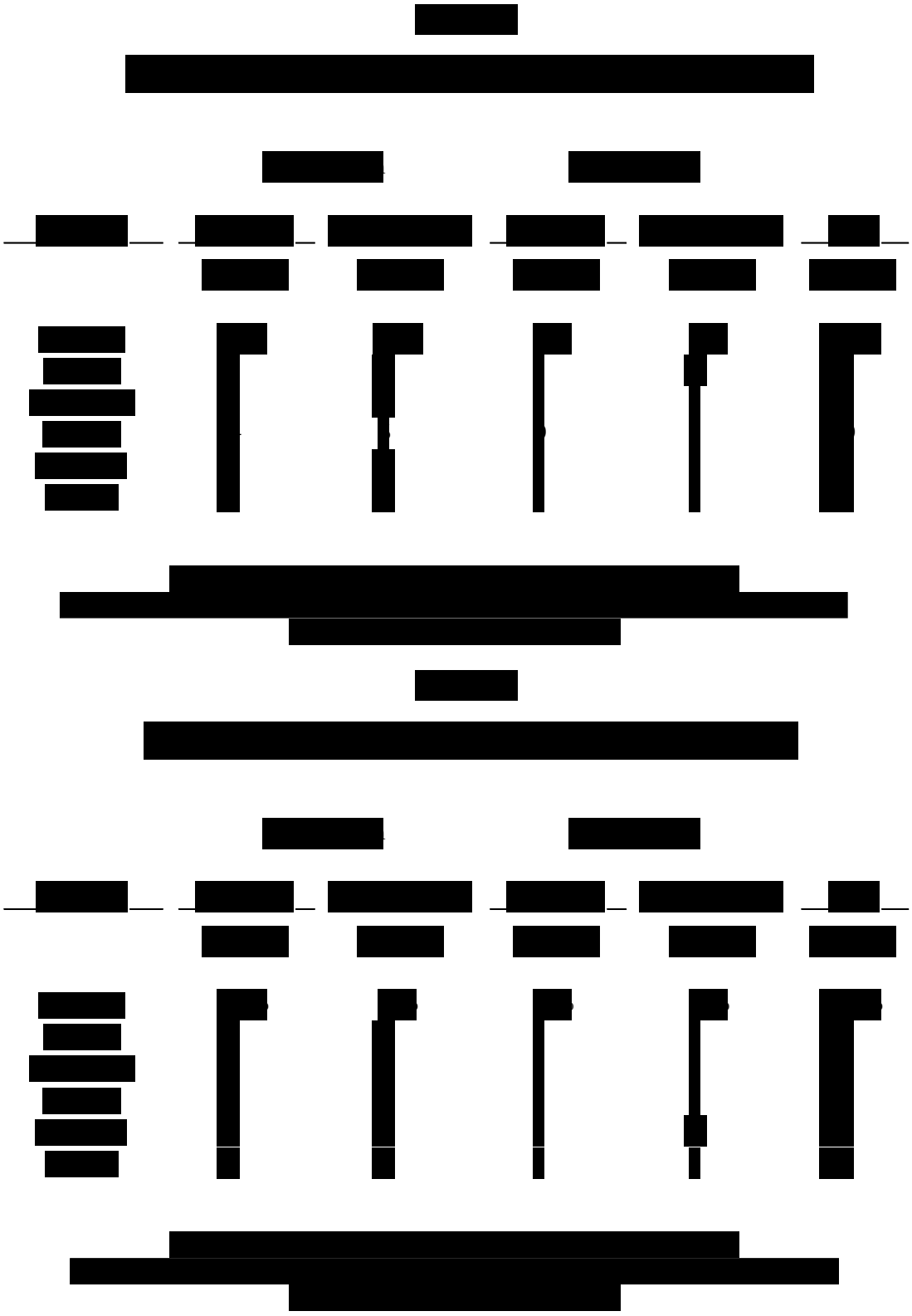

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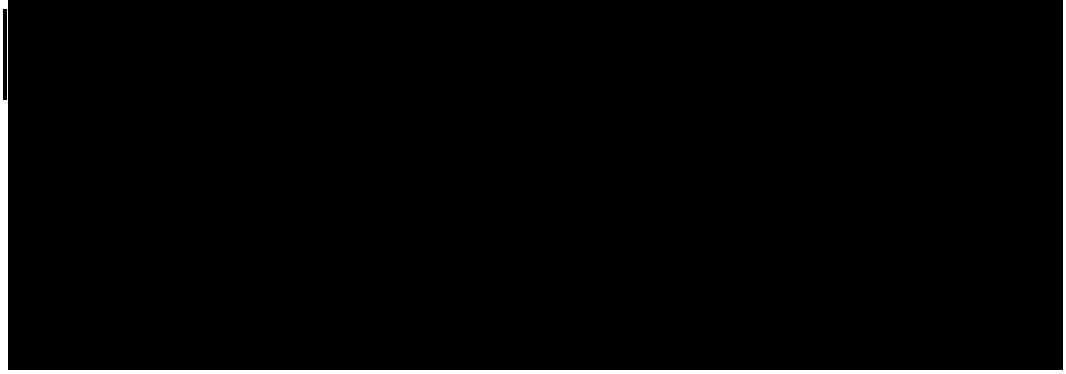

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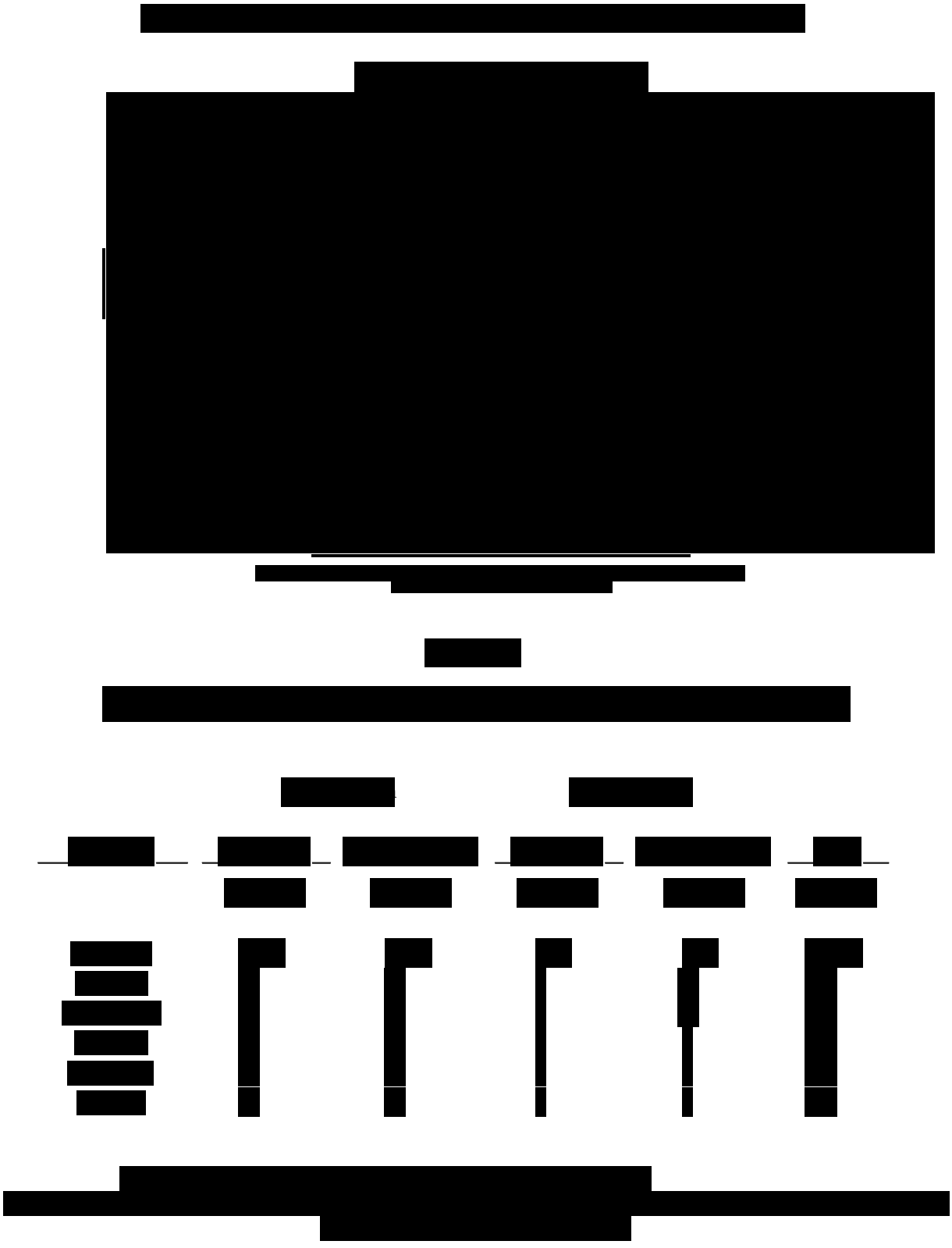

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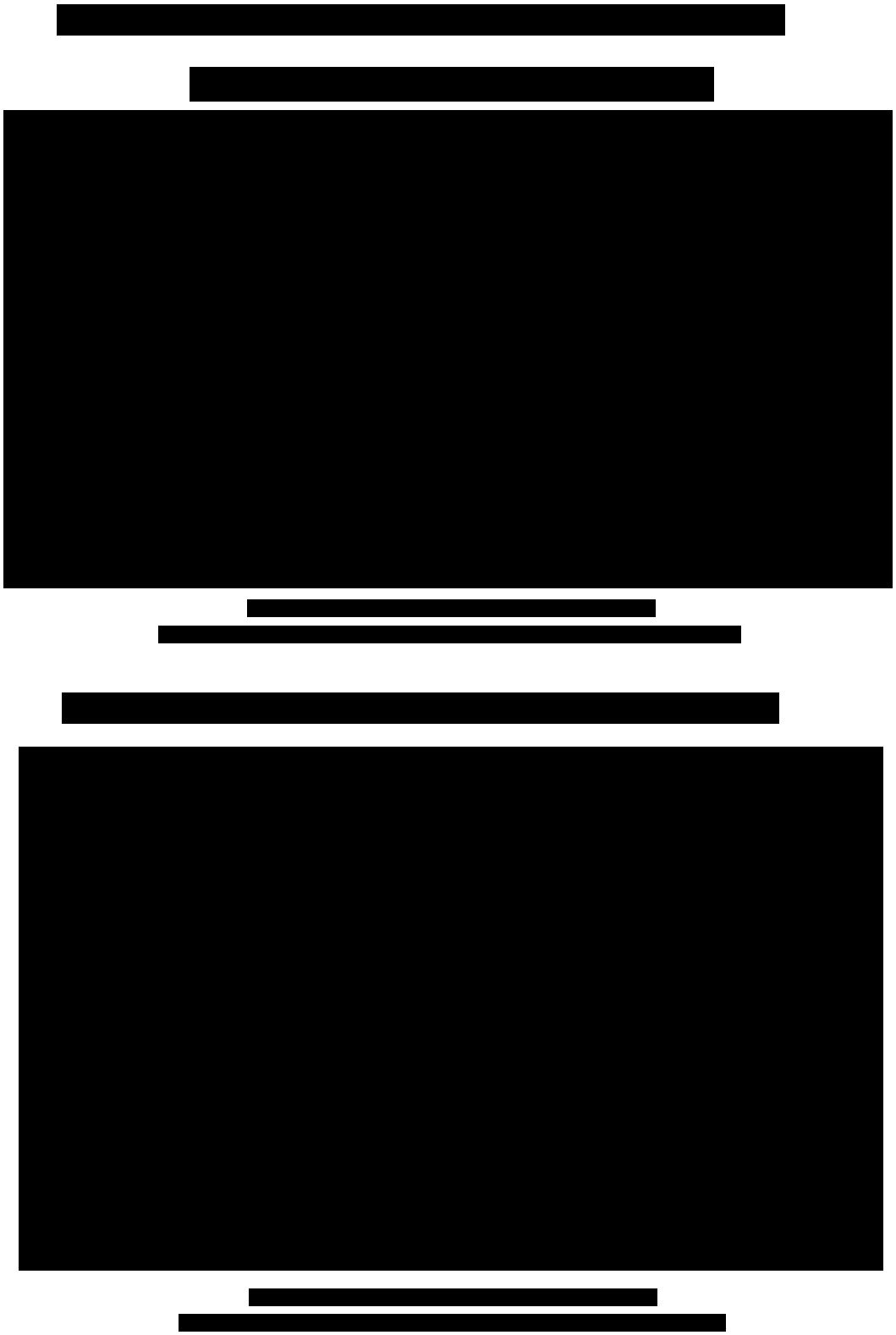

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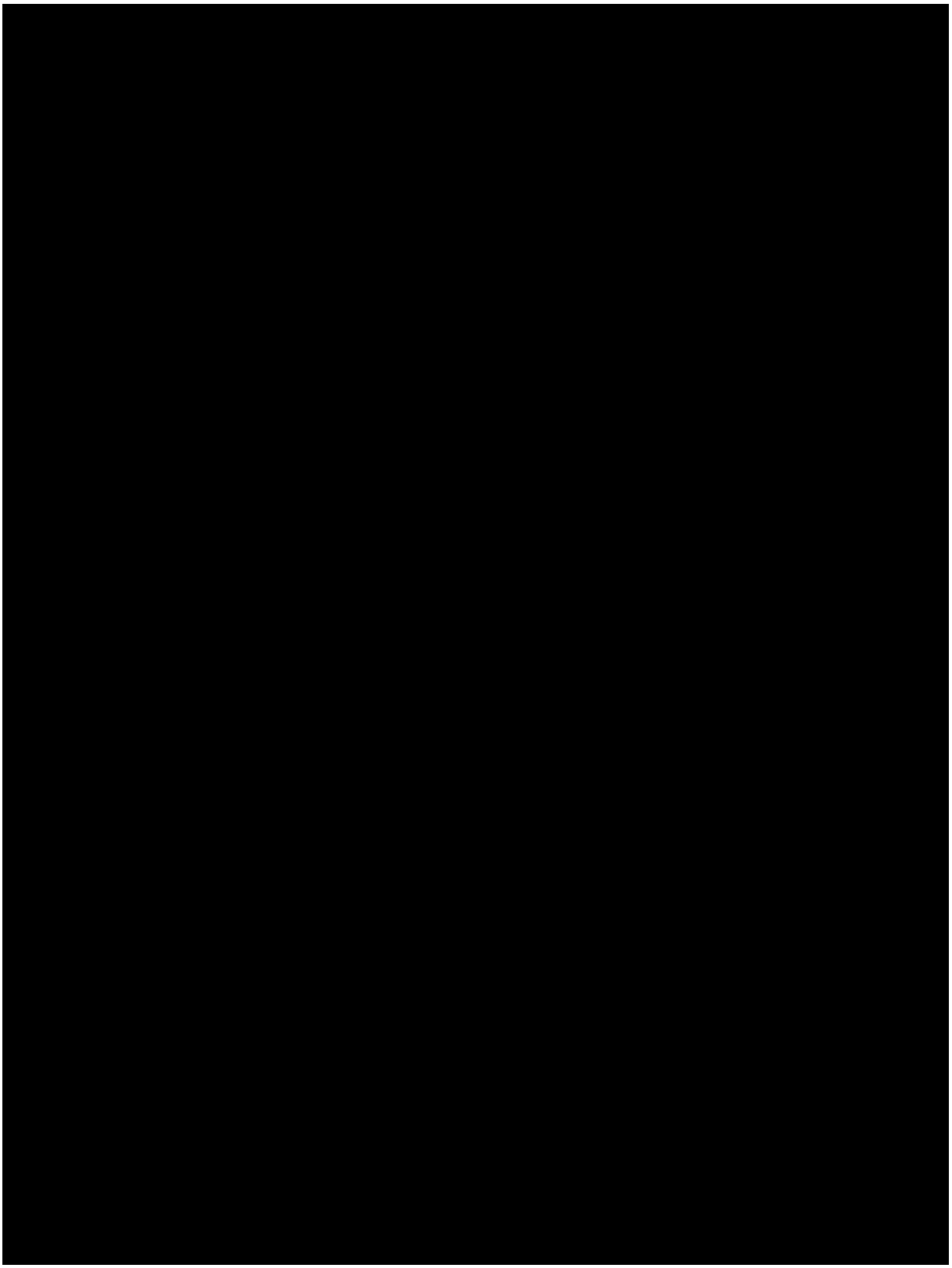

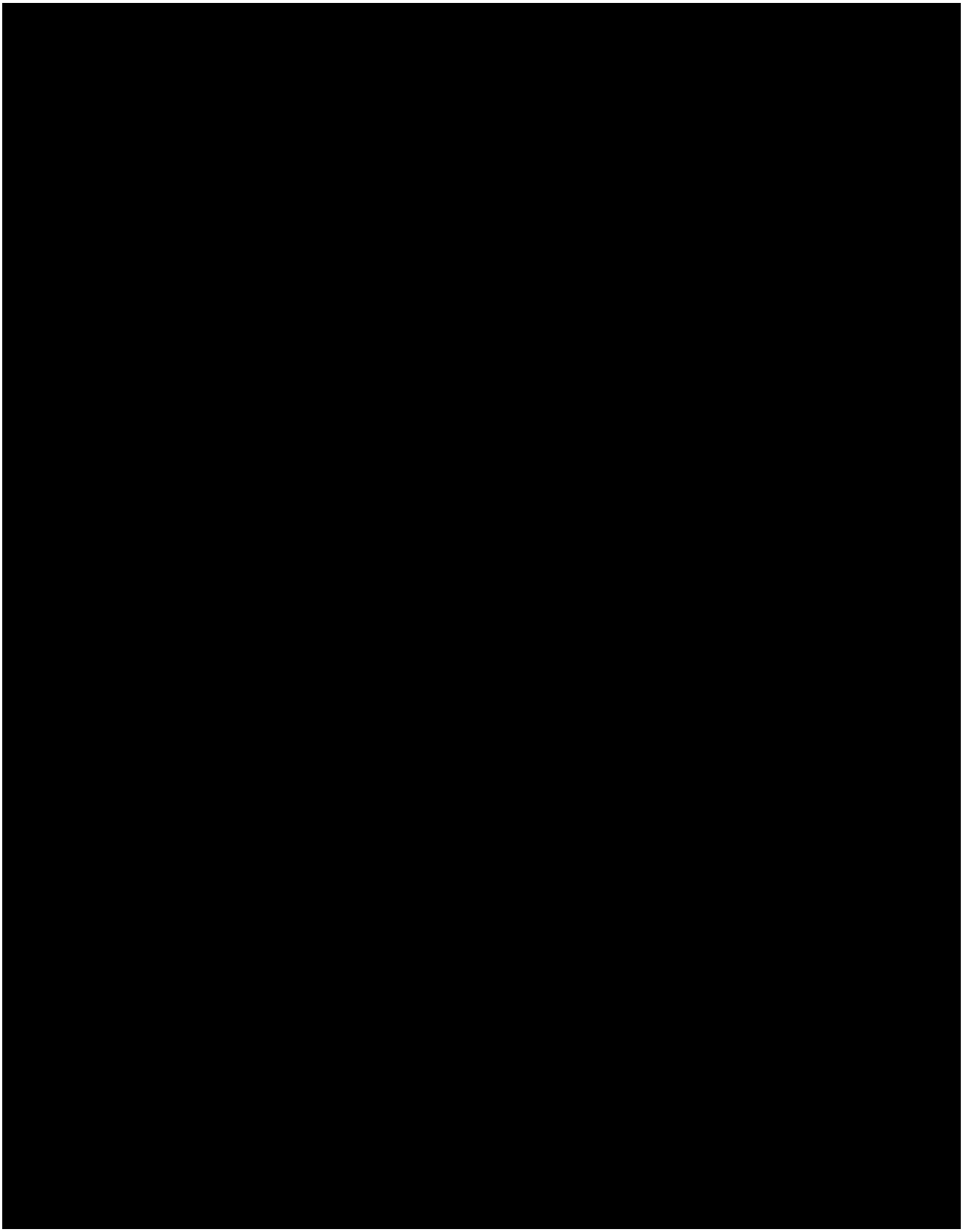

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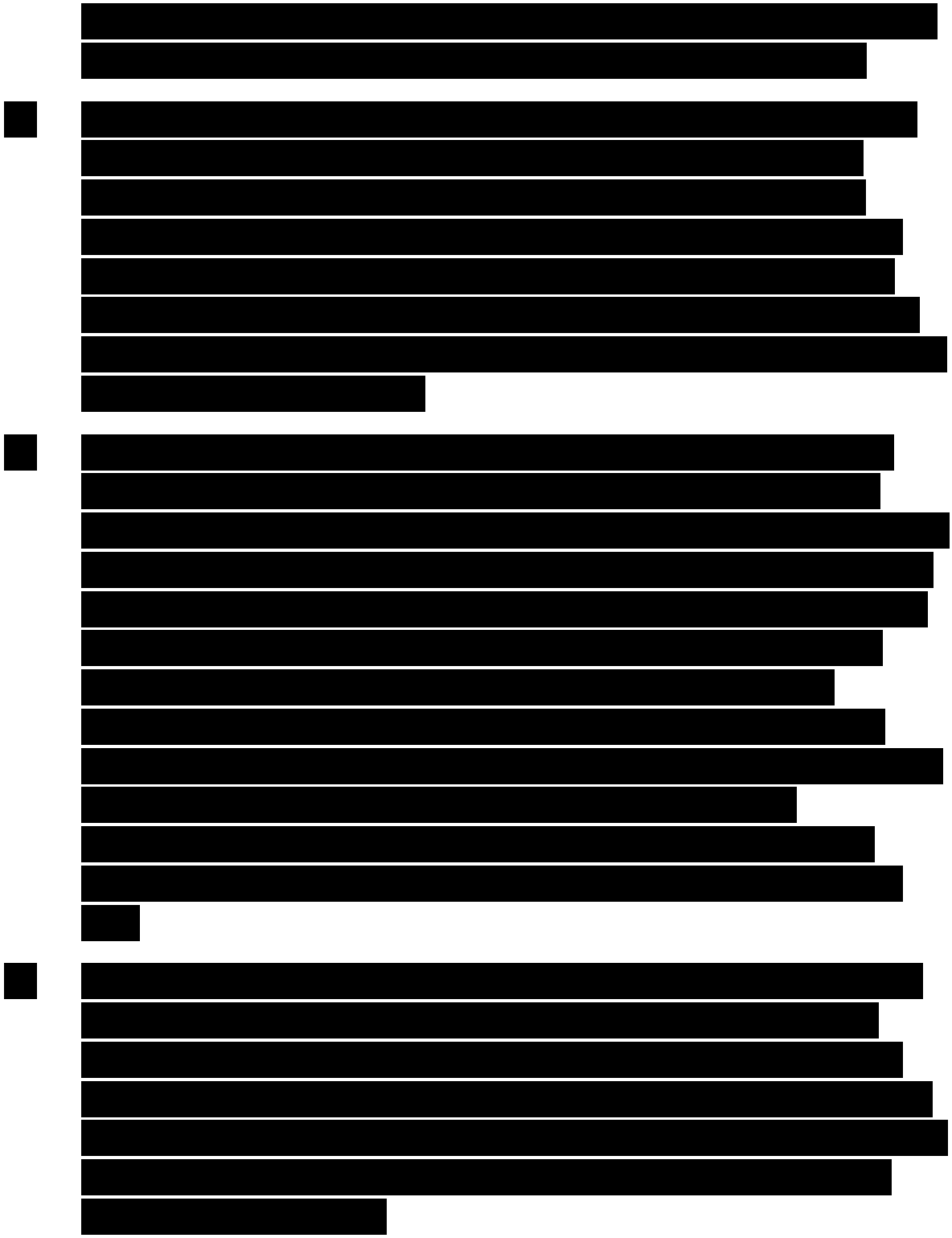

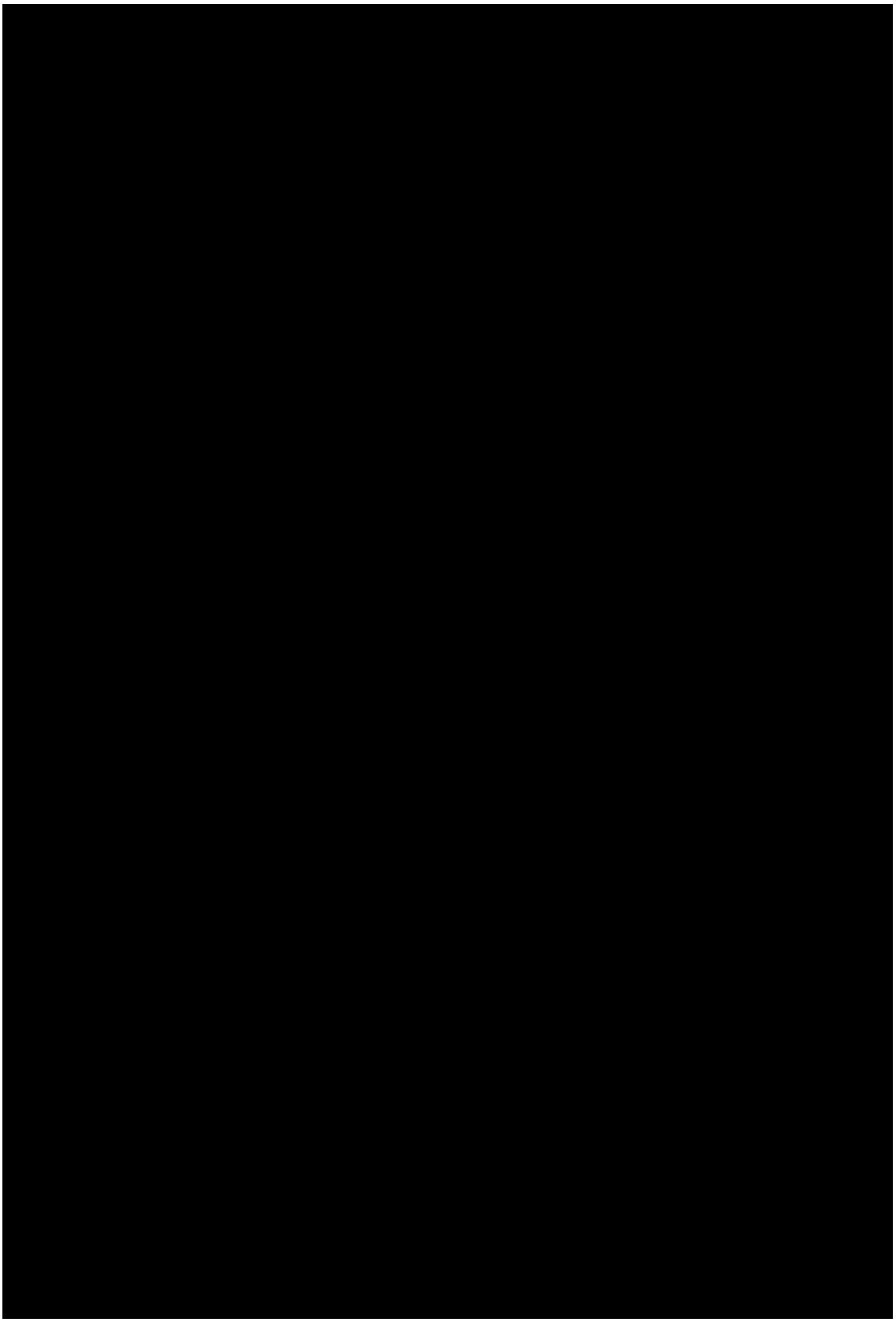

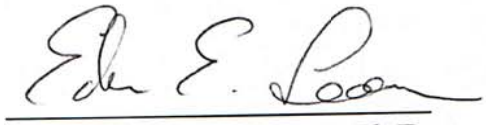

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